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ABSTRACT

COMPUTER ASSISTED INSTRUCTION DESERVES SERIOUS CCNSIDERATION BY THE ENGLISH TEACHER AS A POTENTIAL CONTRIBUTOR TO TEACHING AND LEARNING. AS A SUPPLEMENT TO THE TEACHER, THE COMPUTER CAN SERVE STUDENTS AS A PERSONAL TUTOR. IT IS NO MORE INHUMAN THAN BCOKS OR RECORDINGS, ALTHCUGH, LIKE THEM, IT CANNOT ADEQUATELY RESPOND TO THE PROBLEMS OF DISTURBED, PLAYFUL, OR HOSTILE STUDENTS. THE COMPUTER MIGHT BE USED TO IMPROVE STUDENTS' READING SKILLS, TC AID THEM IN USING A VARIETY OF SENTENCE PATTERNS IN COMPOSITION, AND TO PROVIDE PRACTICE IN CONVENTIONS OF STANDARD ENGLISH. SOME POTENTIAL USES FOR TEACHERS ARE IN CRDERING AND CATALOGING INSTRUCTIONAL MATERIALS, SURVEYING STUDENT INTERESTS, AND STUDYING PROGRAM EFFECTIVENESS FCR CCLLEGE CR BUSINESS PREPARATION. NOT AVAILABLE IN HARD COPY DUE TO MARCINAL LEGIBILITY OF ORIGINAL DCCUMENT. (MF)

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The Computer and the Teacher of English

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It may well be that in the next ten years computer assisted instruction may revolutionize the entire system of instruction in the United States. Schools, as we know them today, may no longer exist. Even now changes in computer technology are so rapid that new generations of computers are obsolete in terms of theory almost as soon as they are built. It is difficult to forecast how sophisticated these machines could become and how completely they could assume some of the tasks of the classroom teacher. Associate Commissioner of U. S. Education, R. Louis Bright, claims that in three years amortized costs of computer assisted instruction will be twenty-five to fifty cents per pupil. He also claims that by the end of the 1970's each large school will have a computer and about one hundred consoles.[1] Because the computer is a very sophisticated form of communica-

tion, the English teacher needs to study its potential contributions to teaching and learning particularly as it is applied to the subject area of English.

The chief advantage of the computer is that as a sophisticated form of programming it fulfills the teaching function in a carefully developed way, i.e., it segments the corpus of material to be learned into a series of steps that are not too widely spaced, arranges these into a hierarchy of levels of difficulty, and gives immediate feedback for correct or incorrect answers. This makes the computer function as a personal tutor for each student.

In one pilot program a student sits in a carrell which is connected by a telephone cable to a computer. The student starts by typing a prescribed signal into the computer which indicates that the student is ready to begin. The computer begins the lesson by typing a question and the student responds. If the answer is correct, the computer types the next question. If the answer is incorrect, the computer may give the correct answer or select a tape recording or a film or a filmstrip to teach the student what he has indicated that he does not know. In a sense the computer works with a form of programmed instruction which is far more sophisticated and faster than printed forms of programmed instruction that are currently available.

The primary objection that people make is that the machine is inhuman. Indeed, one is amused when a machine is purposely programmed to give human responses. An example is the computer which is programmed to teach German and which answers wrong responses with the retort, DUMKOPF! Curiously, few people would suggest that books are inhuman, nor recordings, nor much other technology that we accept as part of the educational process. McLuhan says that media are extensions of the human senses; so, too, may media be extensions of the human brain. The computer will assist the teacher who will still remain the center of the classroom. The computer is an extension of the teacher not a replacement of him.

There are many limitations to computer assisted instruction. The computer cannot respond adequately to a person who is temporarily emotionally disturbed, who cannot cope with the mechanics of operating the computer, or who is in a playful mood and taps intentionally wrong answers into the computer, or who enjoys outsmarting the machine. It may be possible that the computer may never be able to perform creative activities.

However, computer assisted instruction offers fantastic possibilities. Periodically a student could be given a routine subject matter "check-up" by the computer. His entire past history, the results of all previous tests, his family background as well as any psychological and social problems would be available to the computer which would determine if they were relevant to the analysis. The student would then be given a program of instruction tailored to fit his personal needs. Instruction could be more personal and impartial than ever before. Each student could follow his personal track with the use of the best and most applicable materials for his needs. The teacher would not serve merely as a transmitter of data; that would be the computer's function. The teacher's function would be two-fold: to develop programs for the computer (to produce content), and

to aid the student in ways not possible by machine.

The following is a list of some of the possible applications of the computer to the teaching of English. The list is exploratory, not exhaustive nor definitive.

Possible Uses — For Student Use in Learning

Literature

1. Improve reading skills (from beginning reading instruction to advanced close reading skills needed for textual analysis of poetry).
2. Serve as a readily accessible library for various genres of literature.
3. Aid the student in the linguistic analysis of style and technique by computational methods.
4. Aid the student in analyzing the mechanics of a poem: meter, rhythm.
5. Provide access to a wide variety of media for cross-media analysis of works of art.

Language

1. Aid students in analyzing utterances (phonemic analysis).
2. Analyze student errors in usage of mass of material and predict trends.
3. Give students spelling instruction and tests.
4. Give student practice in conventions of standard English (as, for example, agreement between subject and verb).
5. Aid student in analysis of punctuation errors — give instruction when and where needed.

Composition (Written and Oral)

1. Aid student in using a variety of sentence patterns.
2. Aid student in developing a variety of paragraph patterns.
3. Grade student essays[2].
4. Sentence by sentence and word by word criticism of writing and help in rewriting as the student works on a paper (at the same time that he is working on it).
5. Give the student help in selecting topics or subjects on which to write or speak based on the student's interests already stored in the computer.

Possible Purposes — For Teacher Use in Teaching and Administering Student Activities

Supplies

1. Automatic reordering of supplies.
2. Preparation of schedules for delivery of materials.
3. Inventory of materials.

Maintenance

1. Scheduling preventative maintenance of instructional materials.
2. Scheduling of replacement of outworn or outmoded instructional materials.
3. Analysis of durability of instructional materials.

Records of Instructional Materials

1. Ordering, cataloging, storing.
2. Analysis of actual use by student and teacher.
3. Evaluating effectiveness of instructional materials by computation of results obtained by tests.

4. Analysis of cost per unit in order to determine the most efficient means of instructing students.

Pupil Census

1. Surveys of interests.
2. Pupil directories.

Reporting of Grades

1. Computation of ranking and non-ranking statistics.
2. Identification of underachievers.
3. Analysis of marks for understanding of the type of help needed by individual students.

Miscellaneous

1. Summaries of ability versus achievement.
2. College admission studies to determine how and why the program should be changed to help students succeed in college or in industry.
3. Identification of pupils with special needs[3].

The English teacher assisted by a computer could function as never before. Indeed, this educational device should interest him greatly for his primary function in English may well be to help people communicate better. Traditionally the approach has been to attempt to improve the ability of people to communicate verbally in a socially acceptable dialect and, also, in the dialect which we call written English. Communication between a student and a computer can be a useful drill method to prepare students for better communication with other humans. The computer has been thought of as a subject to be studied and used in the subject matter area of mathematics. Marshall McLuhan has pointed out that when IBM and other companies began to think of themselves as processors of information rather than sellers of office machines they began to make great commercial progress. So must the English teacher think of computers as a way of improving communication (and instruction) rather than only a way of computing data or processing data for administrative purposes.

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[1] Peter A. Janssen, "Where New Technology Will Take Education," *Nation's Schools*, 78:4 (October, 1966), p. 72.

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[2] Work on this has already been done. See Ellis B. Page, "The Imminence of Grading Essays by Computer," *Phi Delta Kappan*, XLVII:5 (January, 1966), pp. 238-243.

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[3] I am indebted for many questions in the section of the list of uses in administering student activities to the article by Peter A. Janssen previously cited.